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EXAMINER	
MEHRPOUR, NAGHMEH	
ART UNIT	PAPER NUMBER
2686	

DATE MAILED: 07/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/982,485	MONIN ET AL.	
	Examiner	Art Unit	
	Naghmeh Mehrpour	2686	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on *25 January 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-43* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-43* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-6, 10-11, 16, 18-26, 29-31, 33, 36-37, 40-43, are rejected under 35 U.S.C. 103(a) as being unpatentable over Kallio (US Publication 2002.0147088 A1) in view Smoentzov et al. (US Publication 2005/00095506 A1).

Regarding claim 1, Kallio teaches a method for mobile communications, comprising:

linking together a network of wireless local area network (WLAN) access points at respective physical locations (see figure 1, page 3 section 0025);

assigning to the access points (BTS, 112) respective logical identities (cell identities) defining channels for use by mobile stations in a vicinity of the network in communicating over the air (GSM) with the access points (BTS 112) (see figure 1, page 3 section 0025). Kallio fails to teach altering the logical identities assigned to one or more of the access points by conveying a signal over the network. However Smolentzov teaches teach altering the logical identities assigned to one or more of the access points by conveying a signal over the network (page 3 section 0056). Therefore, it would have been obvious to ordinary skill in the art at the time the invention is made to combine the

above teaching of Smolentzov with Kallio, in order to calculate real time clock of a first radio node in a second radio node, utilizing radio interfaces that are unsynchronized with each other, and keep track of neighboring local radio networks.

Regarding claim 2, Kallio teaches a method wherein altering the logical identities comprises altering the identities while the mobile stations are in communication with the access points (BTS and WMC), substantially without interrupting the communication (see figure 1, pages 2-3 section 0024).

Regarding claim 3, Kallio teaches a method wherein communicating over the air with the access points comprises conveying at least one of circuit-switched voice communications and data communications (page 2 section 0023).

Regarding claim 4, Kallio fails to teach a method wherein the altering logical identities comprises transferring the identities among the access points responsive to movement of the mobile stations in the vicinity of the network. However Smolentzov teaches teach altering the logical identities assigned to one or more of the access points by conveying a signal over the network (page 3 section 0056). Therefore, it would have been obvious to ordinary skill in the art at the time the invention is made to combine the above teaching of Smolentzov with Kallio, in order to calculate real time clock of a first radio node in a second radio node, utilizing radio interfaces that are unsynchronized with each other, and keep track of neighboring local radio networks.

Regarding claim 5, Kallio teaches a method wherein transferring the identities comprises transferring one of the identities from a first one (BTS/BSC) of the access points to a second (WMC) one of the access points adjacent to the first one, responsive to the movement of one of the mobile stations away from the first one of the access points and toward the second one (page 4, section 0036). Kallio fails to teach altering the logical identities assigned to one or more of the access points by conveying a signal over the network. However Smolentzov teaches teach altering the logical identities assigned to one or more of the access points by conveying a signal over the network (page 3 section 0056). Therefore, it would have been obvious to ordinary skill in the art at the time the invention is made to combine the above teaching of Smolentzov with Kallio, in order to calculate real time clock of a first radio node in a second radio node, utilizing radio interfaces that are unsynchronized with each other, and keep track of neighboring local radio networks.

Regarding claim 6, Kallio teaches a method wherein transferring the identities comprises assigning a plurality of the identities to each of one or more of the access points so as to increase availability of the channels in an area of the network into which a number of the mobile stations have moved (pages 2-3 section 0024). The WLAN cell are much smaller than the GSM cells, when the mobile moves from WLAN network to GSM network, mobile enters to the larger cells and larger cells provides more channels, therefore, the availability of channels are increased.

Regarding claim 10, Kallio teaches a method wherein linking together the network of access points comprises linking the access points to a central control unit 300, and wherein altering the logical identities comprises conveying signals over the network from the central control unit 300 (see figure 1, network management unit) to the access points (page 2 section 0024).

Regarding claim 11, Kallio teaches a method wherein conveying the signals comprises multiplexing the signals at the central control unit 300 responsive to the logical identities (GSM or WLAN), and switching the multiplexing/de-multiplexing signals in the base station controller to the access point (page 3 section 0026). The GSM network 100 comprises a Base Station Subsystem (BSS) 110 and a Network and Switch Subsystem (NSS) 120. The Base Station Subsystem (BSS) 110 includes a Base Transceiver Station (BTS) 112 having several base radio transceivers operable in different radio frequencies and a Base Station Controller (BSC) 114 having a control computer (typically a microprocessor with memory), data communication facilities, and multiplexing/de-multiplexing equipments arranged to coordinate the overall operation of the base station equipments, including controlling radio communication links (page 3 section 0026). The multiplexing and demultiplexing done in the BSC/BTS in GSM network. Kallio modified Smolentzov does not specifically mention a method wherein switching the multiplexed signals in the network to the access points for demultiplexing and transmission over. However the Examiner takes official notice that multiplexing and de-multiplexing is common for an access point to receive multiplex signals for de-multiplexing and transmission. Therefore, it would have been obvious to ordinary skill

in the art at the time the invention is made to provide the above teaching with Kallio modified by Smolentzov, in order to provide a composite that may be averaged or weighted to avoid receiving improper data based upon noise.

Regarding claim 15, Kallio inherently teaches a method wherein defining the channels comprises determining an air interface pattern for use in communicating over the air, dependent upon the logical identities. If the logical identities are GSM the interface pattern are radio Um interface and A-bis interfaces (page 3 section 0027) and if the logical identities are WLAN, the interface pattern are A-interface gate (AGW) (page 3 section 0028).

Regarding claim 18, Kallio teaches a method wherein determining the air interface pattern comprises setting an initial air interface pattern in accordance with a first wireless network (WLAN) technology, and wherein the logical identities comprises applying a subsequent air interface pattern in accordance with a second (GSM), different wireless network technology. If the logical identities is GSM the interface patterns are radio Um interface and A-bis interfaces (page 3 section 0027) and if the logical identities are WLAN, the interface pattern is A-interface gate (AGW) (page 3 section 0028). Kallio fails to teach altering the logical identities assigned to one or more of the access points by (BTS and WMC) conveying a signal over the network (WLAN) (page 3 section 0025). Therefore, it would have been obvious to ordinary skill in the art at the time the invention is made to combine the above teaching of Smolentzov with Kallio, in order to calculate real time clock of a first radio node in a second radio node, utilizing

radio interfaces that are unsynchronized with each other, and keep track of neighboring local radio networks.

Regarding claim 19, Kallio teaches a method wherein altering the logical identities comprises transferring the identities among the access points responsive to a predetermined plan (page 8 claim 8).

Regarding claim 20, Kallio teaches apparatus for mobile communications, comprising: a plurality of wireless local area network (WLAN) access points at respective physical locations (see figure 1, page 3 section 0025), linked together in a network, and having respective logical identities assigned thereto, the logical identities defining channels for use by mobile stations in a vicinity of the network in communicating over the air with the access points (see figure 1, page 3 section 0025); and
a control unit 300, which is coupled to convey signals over transport links in the network so as to alter the logical identities assigned to one or more of the access points (BTS) (see figure 1, page 3 section 0029).

Regarding claim 21, Kallio teaches apparatus wherein responsive to the signals, the access points are adapted to alter their logical identities while the mobile stations are in communication with the access points (BTS and WMC), substantially without interrupting the communication (see figure 1, pages 2-3 section 0024).

Regarding claim 22, Kallio teaches apparatus wherein the access points are configured to exchange at least one of circuit-switched voice communications and data communications over the air with the mobile stations (page 2 section 0023).

Regarding claim 23, Kallio teaches apparatus wherein the control unit is adapted to alter the logical identities by transferring the identities among the access points responsive to movement of the mobile stations in the vicinity of the network (pages 2-3 sections 0023, 0024).

Regarding claim 24, Kallio fails to teach altering the logical identities assigned to one or more of the access points by conveying a signal over the network. However Smolentzov teaches teach altering the logical identities assigned to one or more of the access points by conveying a signal over the network (page 3 section 0056). Therefore, it would have been obvious to ordinary skill in the art at the time the invention is made to combine the above teaching of Smolentzov with Kallio, in order to calculate real time clock of a first radio node in a second radio node, utilizing radio interfaces that are unsynchronized with each other, and keep track of neighboring local radio networks.

Regarding claim 25, Kallio inherently teaches an apparatus wherein the control unit is adapted to reassign a plurality of the identities to each of one or more of the access points so as to increase availability of the channels in an area of the network into which a number of the mobile stations have moved (pages 2-3 section 0024). The WLAN cell are much smaller than the GSM cells, when the mobile moves from WLAN network to

GSM network, mobile enters to the larger cells and larger cells provides more channels, therefore, the availability of channels are increased.

Regarding claim 26, Kallio fails to teach apparatus wherein the control unit 300 is adapted to the logical identities by transferring the identities among the access points responsive to a predetermined plan. However, Smolentzov teaches a control unit which is adapted to the logical identities by transferring the identities among the access points responsive to a predetermined plan altering the logical identities assigned to one or more of the access points by conveying a signal over the network (page 3 section 0056). Therefore, it would have been obvious to ordinary skill in the art at the time the invention is made to combine the above teaching of Smolentzov with Kallio, in order to calculate real time clock of a first radio node in a second radio node, utilizing radio interfaces that are unsynchronized with each other, and keep track of neighboring local radio networks.

Regarding claim 29, Kallio inherently teaches apparatus wherein the central control unit comprises:

a plurality of signal modulators, which are adapted to modulate the signals to be conveyed over the network responsive to the logical identities (see figure 1, page 2 section 0015); and

switching circuitry, coupled to route the modulated signals via the network to the access points for transmission over the air (see figure 1, page 3 section 0029). As evidenced by

the fact that reference Mahany US Publication 2004/0077353 is used on page 9 sections 0123, 0124 and page 12 section 0151.

Regarding claim 30, Kallio inherently teaches an apparatus, wherein the modulated signals comprise baseband signals (see figure 1, pages 2-3 section 0024). As evidenced by the fact that reference Mahany US Publication 2004/0077353 is used on page 9 sections 0123-0124, page 12 section 0151.

Regarding claim 31, Kallio teaches an apparatus wherein the modulated signals comprise radio frequency (RF) signals (Blue Tooth (RF), page 2 section 0023)

Regarding claim 33, Kallio inherently teaches an apparatus wherein defining the channels comprises determining an air interface pattern for use in communicating over the air, dependent upon the logical identities. If the logical identities are GSM the interface patterns are radio Um interface and A-bis interfaces (page 3 section 0027) and if the logical identities are WLAN, the interface pattern is A-interface gate (AGW) (page 3 section 0028).

Regarding claim 36, Kallio teaches an apparatus wherein at least one of the air interface patterns is set initially in accordance with a first wireless network technology, and wherein the control unit is adapted to alter the logical identities so as to redefine the at least one of the air interface patterns in accordance with a second, different wireless network technology. If the logical identities is GSM the interface pattern are radio Um

interface and A-bis interfaces (page 3 section 0027) and if the logical identities are WLAN, the interface pattern are A-interface gate (AGW) (page 3 section 0028).

Regarding claim 37, Kallio inherently teaches apparatus for mobile communications, comprising: a plurality of wireless local area network (WLAN) access points at respective physical locations, linked together in a network, each of the access points (pages 2-3 section 0024) comprising:
a baseband processing module for generating modulated baseband signals (see figure 1, page 3 section 0025), the baseband processing module having a respective logical identity programmably assigned thereto, the logical identity defining a pattern of modulation of the baseband signals for use in communicating with mobile stations in a vicinity of the network (see figure1, page 3 section 0025); and a radio module (MSC), coupled to the baseband processing module (BSC) and adapted to convert the baseband signals to radio frequency (RF) signals for transmission over the air to the mobile stations (150); and a control unit 300, which is coupled to convey signals over the network so as to reprogram the logical identity of the baseband processing module, thereby changing the pattern of modulation (page 3 section 0025). As evidenced by the fact that reference Mahany US Publication 2004/0077353 is used on page 9 sections 0123-0124, and page 12 section 0151.

Regarding claim 39, Kallio teaches an apparatus for mobile communications, comprising: a plurality of wireless local area network (WLAN) access points at respective physical locations, linked together in a network, and adapted to transmit radio

frequency (RF) signals over the air to mobile stations in a vicinity of the network (see figure 1, pages 2-3 section 0024); and

a control unit 300, comprising: a plurality of baseband processing modules for generating modulated baseband signals, the baseband processing modules having respective logical identities defining channels for use in communicating over the air with the mobile stations; and

switching circuitry 120, adapted to couple the baseband processing modules (BSC) to the access points (BTS and WMC) so that the access points transmit the RF signals on respective ones of the channels assigned by the switching circuitry (see figure 1, page 3 section 025). As evidenced by the fact that reference Mahany US Publication 2004/0077353 is used on page 9 sections 0122-0123, and page 12 section 0151.

Regarding claim 40, Kallio teaches an Apparatus wherein the switching circuitry is adapted to alter the channels assigned to the access points while the mobile stations are in communication with the access points, substantially without interrupting the communication (pages 2-3, section 0024).

Regarding claim 41, Kallio inherently teaches an apparatus wherein the wireless access points (BTS) comprise radio modules, which are coupled to receive the baseband signals generated by the baseband processing modules and to generate the RF signals responsive thereto (page 3 section 0025). As evidenced by the fact that reference Mahany US Publication 2004/0077353 is used on page 12 section 0151.

Regarding claim 42, Kallio inherently teaches an apparatus wherein the control unit further comprises a plurality of radio modules coupled to the baseband processing modules so as to generate the RF signals responsive to the baseband signals, and wherein the switching circuitry 120 comprises RF switching circuitry, which is adapted to convey the RF signals to the access points (WLAN 210 and BTS 112) for transmission (page 3 section 0025). As evidenced by the fact that reference Mahany US Publication 2004/0077353 is used on page 12 section 0151.

Regarding claim 43, Kallio teaches apparatus wherein at least one of the access points (GSM or WLAN) comprises a plurality of antennas, and wherein the switching circuitry is adapted to couple the baseband processing modules (RADIO) to the at least one (BTS/BSC 110) of the access points so that each of the plurality of the antennas transmits the RF signals over the air on a respective one of the channels (see figure 1, page 3 Section 0025).

3. Claims 7-9, 12-14, 16-17, 32, 34-35, 38-39, are rejected under 35 U.S.C. 103(a) as being unpatentable over Kallio (US Publication 2002.0147088 A1) in view of Smolentzov et al. (US Publication 2005/0009506 A1) in view of Mahany (US Publication 2004/0077353 A1).

Regarding claim 7, Kallio modified Smolentzov fails to teach a method wherein assigning the logical identities comprises assigning a common one of the identities to a plurality of the access points whose respective physical locations are outside a

transmission range of one another. However Mahany teaches a method wherein assigning the logical identities comprises assigning a common one of the identities to a plurality of the access points whose respective physical locations are outside a transmission range of one another (page 5 section 0080). Therefore, it would have been obvious to ordinary skill in the art at the time the invention is made to provide the above teaching of Mahany with Kallio modified by Smolentzov, in order to provide a mechanism for selecting spread spectrum modes of operation to satisfy network member limitations, neighboring system non-interference requirements, as well as noise tolerance.

Regarding claim 8, Kallio modified by Smolentzov fails to teach a method wherein assigning the logical identities comprises assigning a common one of the identities to a plurality of the access points whose respective transmission ranges are mutually overlapping. However Mahany teaches a method wherein assigning the logical identities comprises assigning a common one of the identities to a plurality of the access points whose respective transmission ranges are mutually overlapping (page 5 sections 0080, 0081). Therefore, it would have been obvious to ordinary skill in the art at the time the invention is made to provide the above teaching of Mahany with Kallio modified by Smolentzov, in order to provide a mechanism for selecting spread spectrum modes of operation to satisfy network member limitations, neighboring system non-interference requirements, as well as noise tolerance.

Regarding claim 9, Kallio modified by Smolentzov fails to teach a method wherein conveying the signals comprises reprogramming a programmable identity module in the

access points. However Mahany teaches a method wherein conveying the signals comprises reprogramming a programmable identity module in the access points (page 5 section 0082, page 13 section 0162). Therefore, it would have been obvious to ordinary skill in the art at the time the invention is made to provide the above teaching of Mahany with Kallio modified by Smolentzov, in order to provide a mechanism for selecting spread spectrum modes of operation to satisfy network member limitations, neighboring system non-interference requirements, as well as noise tolerance.

Regarding claim 12, Kallio modified by Smolentzov fails to teach a method wherein switching the modulated signals comprises parallel switching of baseband signals generated at the central control unit. Mahany teaches a method wherein switching the modulated signals comprises parallel switching of baseband signals generated at the central control unit 503 (see figure1C, page 9 section 0122, page 14 sections 0178-0179). Therefore, it would have been obvious to ordinary skill in the art at the time the invention is made to provide the above teaching of Mahany with Kallio modified by Smolentzov, in order to provide a mechanism for selecting spread spectrum modes of operation to satisfy network member limitations, neighboring system non-interference requirements, as well as noise tolerance.

Regarding claim 13, Kallio modified by Smolentzov fails to teach a method wherein switching the modulated signals comprises switching modulated radio frequency (RF) signals generated at the central control unit. Mahany teaches a method wherein switching the modulated signals comprises switching modulated radio frequency (RF)

signals generated at the central control unit 128 (see figures 2-3, page 14 sections 178-179). Therefore, it would have been obvious to ordinary skill in the art at the time the invention is made to provide the above teaching of Mahany with Kallio modified by Smolentzov, in order to provide a mechanism for selecting spread spectrum modes of operation to satisfy network member limitations, neighboring system non-interference requirements, as well as noise tolerance.

Regarding claim 14, Kallio modified by Smolentzov fails to teach a method wherein switching the modulated signals comprises switching modulated intermediate frequency (IF) signals generated at the central control unit. Mahany teaches a method wherein switching the modulated signals comprises switching modulated intermediate frequency (IF) signals generated at the central control unit (page 12 section 0153, page 13 section 00158). Therefore, it would have been obvious to ordinary skill in the art at the time the invention is made to provide the above teaching of Mahany with Kallio modified by Smolentzov, in order to provide a mechanism for selecting spread spectrum modes of operation to satisfy network member limitations, neighboring system non-interference requirements, as well as noise tolerance.

Regarding claim 16, Kallio modified by Smolentzov fails to teach a method wherein determining the air interface pattern comprises determining a pattern for frequency hopping. However Mahany teaches a method wherein determining the air interface pattern comprises determining a pattern for frequency hopping (page 13 section 0163). Therefore, it would have been obvious to ordinary skill in the art at the time the invention

is made to provide the above teaching of Mahany with Kallio modified by Smolentzov, in order to provide a mechanism for selecting spread spectrum modes of operation to satisfy network member limitations, neighboring system non-interference requirements, as well as noise tolerance.

Regarding claim 17, Kallio modified by Smolentzov fails to teach a method wherein determining the air interface pattern comprises determining a pattern for direct sequence spread spectrum transmission. However Mahany teaches a method wherein determining the air interface pattern comprises determining a pattern for direct sequence spread spectrum transmission (page 5 section 0084, page 6 section 0092). Therefore, it would have been obvious to ordinary skill in the art at the time the invention is made to provide the above teaching of Mahany with Kallio modified by Smolentzov, in order to provide a mechanism for selecting spread spectrum modes of operation to satisfy network member limitations, neighboring system non-interference requirements, as well as noise tolerance.

Regarding claim 27, Kallio modified by Smolentzov fails to teach an apparatus wherein the control unit is adapted to assign a common one of the identities to a plurality of the access points whose respective physical locations are outside a transmission range of one another. Mahany teaches an apparatus wherein the control unit is adapted to assign a common one of the identities to a plurality of the access points whose respective physical locations are outside a transmission range of one another (page 5 section 0080). Therefore, it would have been obvious to ordinary skill in the art at the time the invention is made to provide the above teaching of Mahany with Kallio modified by Smolentzov, in

order to provide a mechanism for selecting spread spectrum modes of operation to satisfy network member limitations, neighboring system non-interference requirements, as well as noise tolerance.

Regarding claim 28, Kallio modified by Smolentzov fails to teach an apparatus wherein the access points comprise programmable identity modules, and wherein the control unit is, adapted to generate the signals so as to cause the programmable identity modules to be reprogrammed with the altered logical identities. However Mahany teaches an apparatus wherein conveying the signals comprises reprogramming a programmable identity module in the access points (page 5 section 0082, page 13 section 0162). Therefore, it would have been obvious to ordinary skill in the art at the time the invention is made to provide the above teaching of Mahany with Kallio modified by Smolentzov, in order to provide a mechanism for selecting spread spectrum modes of operation to satisfy network member limitations, neighboring system non-interference requirements, as well as noise tolerance.

Regarding claim 32, Kallio modified by Smolentzov fails to teach apparatus wherein the modulated signals comprise intermediate frequency (IF) signals. However Mahany teaches a method wherein switching the modulated signals comprises switching modulated intermediate frequency (IF) signals generated at the central control unit (page 12 section 0153, page 13 section 00158). Therefore, it would have been obvious to ordinary skill in the art at the time the invention is made to provide the above teaching of Mahany with Kallio modified by Smolentzov, in order to provide a mechanism for

selecting spread spectrum modes of operation to satisfy network member limitations, neighboring system non-interference requirements, as well as noise tolerance.

Regarding claim 34, Kallio modified by Smolentzov fails to teach an apparatus wherein determining the air interface pattern comprises determining a pattern for frequency hopping. However Mahany teaches an apparatus wherein determining the air interface pattern comprises determining a pattern for frequency hopping (page 13 section 0163). Therefore, it would have been obvious to ordinary skill in the art at the time the invention is made to provide the above teaching of Mahany with Kallio modified by Smolentzov, in order to provide a mechanism for selecting spread spectrum modes of operation to satisfy network member limitations, neighboring system non-interference requirements, as well as noise tolerance.

Regarding claim 35, Kallio modified by Smolentzov fails to teach an apparatus wherein determining the air interface pattern comprises determining a pattern for frequency hopping. However Mahany teaches an apparatus wherein determining the air interface pattern comprises determining a pattern for frequency hopping (page 13 section 0163). Therefore, it would have been obvious to ordinary skill in the art at the time the invention is made to provide the above teaching of Mahany with Kallio modified by Smolentzov, in order to provide a mechanism for selecting spread spectrum modes of operation to satisfy network member limitations, neighboring system non-interference requirements, as well as noise tolerance.

Regarding claim 38, Kallio modified by Smolentzov fails to teach apparatus wherein the pattern of modulation comprises a frequency-hopping pattern used in transmission of the RF signals between the radio module and the mobile stations. However Mahany teaches an apparatus wherein determining the air interface pattern comprises determining a pattern for frequency hopping (page 13 section 0166-0167). Therefore, it would have been obvious to ordinary skill in the art at the time the invention is made to provide the above teaching of Mahany with Kallio modified by Smolentzov, in order to provide a mechanism for selecting spread spectrum modes of operation to satisfy network member limitations, neighboring system non-interference requirements, as well as noise tolerance.

Regarding claim 39, Kallio teaches an apparatus for mobile communications, comprising: a plurality of wireless local area network (WLAN) access points at respective physical locations, linked together in a network, and adapted to transmit radio frequency (RF) signals over the air to mobile stations in a vicinity of the network (see figure 1, pages 2-3 sections 0023- 0024); and a control unit 300, comprising: a plurality of baseband processing modules for generating modulated baseband signals, the baseband processing modules having respective logical identities defining channels for use in communicating over the air with the mobile stations; and
switching circuitry 120, adapted to couple the baseband processing modules (BSC) to the access points (BTS and WMC) so that the access points transmit the RF signals on respective ones of the channels assigned by the switching circuitry (see figure 1, page 3 section 025). As evidenced by the fact that reference Mahany US Publication 2004/0077353 is used on page 9 sections 0122, 0123, and page 12 section 0151.

Response to Arguments

4. Applicant's arguments with respect to claims 1-43 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

5. **Any responses to this action should be mailed to:**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Naghmeh Mehrpour whose telephone number is 571-272-7913. The examiner can normally be reached on 8:00- 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha Banks-Harold be reached (571) 272-7905.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

NM

June 24, 2005

MELODY MEHRPOUR
PATENT EXAMINER